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PHARMACOLOGY

1. Coenzymes are cofactors that are loosely bound to the enzyme. It is a substance that enhances the action of an enzyme.
2. Differentiate between fat and water soluble vitamins

| FAT SOLUBLE VITAMINS | WATER SOLUBLE VITAMINS |
|---|---|
| They are soluble in fat | They are not soluble in fat |
| They are not soluble in water | They are soluble in water |
| Carrier proteins are present | Carrier proteins are not present |
| Deficiency manifests only when stores are depleted | Deficiency manifests rapidly as there is no storage |
| They are stored majorly in the liver | They have no storage |

Describe niacin in relation to its coenzymic function

Niacin, also known as vitamin B3 and nicotinic acid, is an organic compound and a form of vitamin B3, an essential human nutrient. This vitamin can generally be found in two distinctive forms, namely nicotinic acid and nicotinamide. These substances are used by the body to form the coenzymes nicotinamide adenine dinucleotide (NAD) and nicotinamide adenine dinucleotide phosphate (NADP). Niacin coenzymes degrade carbohydrates, fats, proteins and alcohols and synthesize fatty acids and cholesterol. NAD and NADP are coenzymes that are part of the energy production system of the body. This system works by means of oxidation and reduction (redox) reactions. NAD is important in catabolism of fat, carbohydrate, protein, and alcohol, as well as cell signalling and DNA repair, and NADP mostly in anabolism reactions such as fatty acid and cholesterol synthesis.